

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

STC.UNM,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD;
SAMSUNG ELECTRONICS AMERICA,
INC.; SAMSUNG SEMICONDUCTOR,
INC.; and SAMSUNG AUSTIN
SEMICONDUCTOR, LLC.

Defendants.

CIVIL ACTION NO. 6:19-CV-000329

JURY TRIAL DEMANDED

**PLAINTIFF'S ORIGINAL COMPLAINT FOR
PATENT INFRINGEMENT AND JURY DEMAND**

Plaintiff STC.UNM files this Original Complaint for Patent Infringement and Jury Demand against Defendants against Samsung Electronics Co. (“SEC”), Ltd., Samsung Electronics America, Inc. (“SEA”), Samsung Semiconductor, Inc. (“SSI”), and Samsung Austin Semiconductor, LLC (“SAS”) (collectively, “Samsung” or “Defendants”). Plaintiff alleges infringement of United States Patent Number 9,142,400 (the “’400 Patent”) as follows:

Related Case

1. This case is related to action — *STC.UNM v. TSMC Co. Ltd. et al.*, No. 19-cv-00261-ADA — filed on April 12, 2019 in this Court by STC.UNM, which involves the same patent-in-suit and common facts.

Parties

2. Plaintiff STC.UNM is a New Mexico nonprofit research park corporation formed, owned, and controlled entirely by the Board of Regents of the University of New Mexico (“UNM”).

3. UNM is a public educational institution based in Albuquerque, New Mexico and serves as the State of New Mexico's flagship research institution. UNM serves over 25,000 students and comprises over 1,700 faculty members at its main campus in Albuquerque and branch campuses in Gallup, Los Alamos, Rio Rancho, Taos, and Los Lunas, New Mexico.

4. Over the past 20 years, UNM researchers have disclosed over 1,700 new inventions resulting in the issuance of over 500 United States patents.

5. STC.UNM's mission includes nurturing inventions researched and developed at UNM, promoting technological collaboration between UNM and other universities and research institutes, and catalyzing economic development in and for the State of New Mexico.

6. STC.UNM furthers its mission by licensing its inventions and, if necessary, enforcing its intellectual property rights. STC.UNM reinvests licensing proceeds into continued research and development at UNM, for the benefit of the State of New Mexico and the rest of the United States.

7. STC.UNM is located at the UNM Lobo Rainforest Building, 101 Broadway Boulevard, Suite 1100, Albuquerque, New Mexico 87102.

8. Plaintiff STC.UNM, UNM, and the Board of Regents of UNM are arms of the State of New Mexico and enjoy sovereign immunity under the common law, statutes, and constitutions of the United States and the State of New Mexico including, but not limited to, the Eleventh Amendment of the United States Constitution and Article 12 of the New Mexico Constitution. *See Regents of University of New Mexico v. Knight*, 321 F.3d 1111 (Fed. Cir. 2003); *STC.UNM v. Quest Diagnostics Inc.*, CIV 17-1123 MV/KBM, 2019 WL 1091390, at *1 (D.N.M. Mar. 8, 2019).

9. By filing this lawsuit or prosecuting this action, STC.UNM does not waive, either expressly or implicitly, its sovereign immunity, the sovereign immunity of UNM or its Board of

Regents, or the sovereign immunity enjoyed by any arm of the State of New Mexico under the laws of the United States or the State of New Mexico, to any *inter partes* review, *ex parte* reexamination, or other post-grant proceeding at the United States Patent and Trademark Office or its Patent Trial and Appeal Board, to any other administrative actions or proceedings whatsoever, to any noncompulsory counterclaims, or to any other federal or state proceedings whatsoever, whether initiated by Defendants or an entity other than Defendants.

10. Defendant Samsung Electronics Co., Ltd. is a company organized and existing under the laws of the Republic of Korea, with its principal place of business at 129 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea.

11. Defendant Samsung Electronics America, Inc. is a corporation organized and existing under the laws of New York, with its principal place of business at 85 Challenger Road, Ridgefield Park, NJ 07660. SEA is a wholly-owned subsidiary of SEC. SEA may be served through its registered agent for service of process, CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201.

12. Defendant Samsung Semiconductor, Inc. is a corporation organized and existing under the laws of California, with its principal place of business at 3655 North First Street, San Jose, California 95134. SSI is a wholly-owned subsidiary of SEA. SSI may be served through its registered agent for service of process, National Registered Agents, Inc., 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

13. Defendant Samsung Austin Semiconductor, LLC is a limited liability company organized and existing under the laws of Delaware, with its principal place of business at 12100 Samsung Boulevard, Austin, Texas 78754. SAS is a wholly-owned subsidiary of SSI. SAS may

be served through its registered agent for service of process, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

Jurisdiction

14. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.*

15. This Court has personal jurisdiction over Defendants because, directly or through intermediaries, each has committed acts within the District giving rise to this action and/or has established minimum contacts with the District such that the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice.

16. Defendants have committed acts of infringement of the '400 Patent within this District by making, using, selling, offering for sale, and/or importing in or into this District products made by practicing the claimed method of the '400 Patent. Defendants have also placed, and are continuing to place, infringing products into the stream of commerce, via an established distribution channel, with the knowledge and/or understanding that such products are sold in the State of Texas, including this District.

17. On information and belief, Defendants have derived substantial revenues from their infringing acts in this District, including from their manufacturing and sale of infringing products in the United States.

18. In addition, SAS has its principal place of business within the District.

Venue

19. Venue is proper against SEC in this District pursuant to 28 U.S.C. § 1391(c)(3) because venue is proper in any district against a foreign corporation. *In re HTC Corp.*, 889 F.3d 1349, 1354 (Fed. Cir. 2018).

20. Venue is proper against SEA, SSI, and SAS in this District pursuant to 28 U.S.C. § 1400(b) because each has committed acts of infringement in the District and has a regular and established place of business in the District. *In re Cray Inc.*, 871 F.3d 1355, 1362-63 (Fed. Cir. 2017).

21. STC.UNM does not waive its sovereign immunity as to any venue, including district courts and administrative tribunals, other than this Court, namely the United States District Court for the Western District of Texas, Waco Division.

United States Patent Number 9,142,400

22. On September 22, 2015, the U.S. Patent and Trademark Office duly and legally issued U.S. Patent No. 9,142,400 (“the ‘400 patent”) entitled, “A Method of Making a Heteroepitaxial Layer on a Seed Area.” A true and correct copy of the ‘400 Patent is attached as Exhibit A.

23. The ‘400 Patent claims patent-eligible subject matter and is valid and enforceable.

24. The ‘400 Patent’s named inventors are UNM professors Steven R. J. Brueck, Stephen D. Hersee, Seung-Chang Lee, and Daniel Feezell.

25. Professors Brueck, Hersee, Lee, and Feezell conveyed to STC.UNM all rights, title, and interest in and to the invention of the ‘400 Patent and its underlying patent applications, including the right to sue and recover for patent infringements, by written assignments recorded in the United States Patent and Trademark Office.

26. STC.UNM is the exclusive owner by assignment of all rights, title, and interest in the ‘400 Patent, including the right to bring this suit for injunctive relief and damages, and including the right to sue and recover all past, present and future damages for infringement of the ‘400 Patent.

27. Defendants have been on notice of the '400 Patent and have been invited to take a license to the '400 Patent and have declined to license the '400 Patent.

The Accused Instrumentalities

28. Defendants manufacture semiconductor devices at several different process nodes (*i.e.*, minimum physical feature size or line width), including the 7 nanometer, 8 nanometer, 10 nanometer, 11 nanometer, 12 nanometer, and 14 nanometer process nodes. The semiconductor devices manufactured by Defendants are, in turn, incorporated into third-party electronic components and products, such as computer chips, smartphones and other mobile devices, and computer graphics cards.

29. Hereafter, the term "Accused Instrumentalities" refers to all products manufactured by Defendants by practicing the '400 Patent and all processes employed by Defendants that practice the '400 Patent, including at least semiconductor devices manufactured according to the 7 nanometer, 8 nanometer, 10 nanometer, 11 nanometer, 12 nanometer, and/or 14 nanometer process nodes; and electronic components and products incorporating such semiconductor devices and processes.

Count 1

(Samsung's Infringement of the '400 Patent)

30. STC.UNM repeats and re-alleges the allegations in the preceding paragraphs as if fully set forth herein.

31. The Accused Instrumentalities include a heteroepitaxial layer (*e.g.*, silicon germanium) made according to the process claimed in the '400 Patent, including but not limited to claim 1 of the '400 Patent. Defendants form a nanostructured pedestal (*e.g.*, silicon) on a semiconductor substrate (*e.g.*, silicon). The pedestal (*e.g.*, silicon) has top and side surfaces. Defendants form a seed area (*e.g.*, cavity etch) on the top surface. The seed area has a linear

surface dimension ranging from about 10 to 100 nanometers (*e.g.*, 7 nanometer, 8 nanometer, 10 nanometer, 11 nanometer, 12 nanometer, and/or 14 nanometer). Defendants provide a selective growth mask layer (*e.g.*, silicon dioxide and/or silicon nitride) on the top and side surfaces and selectively remove it (*e.g.*, reactive ion etch) to expose the seed area. Defendants selectively etch back (*e.g.*, reactive ion etch) the exposed top surface and grow the heteroepitaxial layer (*e.g.*, silicon germanium) on the seed area.

32. Defendants have directly infringed and continue to directly infringe the '400 Patent, in violation of under 35 § U.S.C. 271(a) & (g) by making, using, selling, offering to sell, and/or importing in or into the United States Accused Instrumentalities and other products made by practicing the method as claimed in or equivalent to the '400 Patent as described above, including at least claim 1 of the '400 Patent.

33. By way of example, SAS has produced and continues to produce semiconductor devices using the 14 nanometer process nodes at its plant in Austin, Texas. Upon information and belief, the process used by SAS to manufacture the semiconductor devices at its Austin, Texas plant includes steps literally corresponding to each step of claim 1 of the '400 Patent.

34. Therefore, on information and belief, SAS has directly infringed, and continues to directly infringe each step of claim 1 of the '400 Patent by using the patented process to make Accused Instrumentalities in the United States.

35. On information and belief, SAS operates under the direction and control of SEC, SEA, and SSI. Thus, on information and belief, SEC, SEA, and SSI have also directly infringed, and continue to directly infringe each step of claim 1 of the '400 patent.

36. Defendants likewise have induced infringement of the '400 Patent in violation of 35 U.S.C. § 271(b). Defendants actively encouraged their customers (*e.g.*, Apple Inc.) to directly

infringe the '400 Patent by using, selling, offering for sale, and/or importing electronic devices and products containing the Accused Instrumentalities (*e.g.*, A9 chip). Defendants actively encouraged their customers to employ Defendants' infringing process nodes to manufacture their customers' semiconductor devices, electronic components, and products by and through Defendants' sales engineering and technical marketing efforts and staff.

37. Defendants' sales engineers and technical marketing staff interface with Defendants' customers and potential customers to obtain "design wins" (*i.e.*, contracts with customers) to develop and manufacture chips using the infringing processes. In attempting to obtain these "design wins," Defendants' sales engineers and technical marketing staff tout the technological and economic benefits of the infringing processes and actively encourage use of the infringing processes to make customers' chips. Defendants have known that their customers' acts constituted direct infringement of at least one claim of the '400 Patent since at least September 25, 2018. As a result of Defendants' active encouragement and intentional inducement, Defendants' customers have committed acts of directly infringing the '400 Patent.

38. In addition to foregoing and/or in the alternative, Defendants are liable as contributory infringers of the '400 Patent under 35 U.S.C. § 271(c). Defendants have offered to sell and/or sold within the United States services for manufacturing and designs for the Accused Instrumentalities that practice the '400 Patent. The Accused Instrumentalities comprise semiconductor devices, each of which constitutes a material part of the '400 Patent's invention, namely the claimed heteroepitaxial layer, that can be incorporated into electronic components and products.

39. For example, such manufacturing services and designs were offered for sale, sold, and marketed by and through Defendants' sales engineering and technical marketing efforts and

staff. Such efforts resulted in the infringing process to be used to make the A9 chip. Upon information and belief, Defendants' customers do not manufacture the A9 chip on their own, but contract with others, such as Defendants, to manufacture such chips. Defendants have known such Accused Instrumentalities and semiconductor devices incorporating the claimed heteroepitaxial layer to be especially adapted for practicing, and thus infringing the '400 Patent since at least September 25, 2018. Neither the claimed heteroepitaxial layer nor the Accused Instrumentalities are staple articles or a commodity of commerce suitable for substantial noninfringing use because they cannot be used individually without incorporation into electronic components and products. Thus, Defendants are liable as contributory infringers.

40. Moreover, Defendants' infringement of the '400 patent was willful. At least by September 25, 2018, SEC had received written notice of the '400 Patent and claim charts detailing how at least their 14 nanometer process node and semiconductor devices manufactured thereto infringe the '400 Patent. Nevertheless, without authorization, SEC continued to infringe the '400 patent in the manners described above, both directly and through its agents, including by, on information and belief, making, using, offering for sale, selling, and/or importing the Accused Instrumentalities.

41. Defendants' acts of infringement have caused damage to STC.UNM, and STC.UNM is entitled to recover from Defendants the damages it has sustained as a result of Defendants' wrongful acts in an amount subject to proof at trial.

42. Defendants' infringement of STC.UNM's exclusive rights under the '400 Patent has caused STC.UNM irreparable harm for which there is no adequate remedy at law, unless the infringement is enjoined by this Court.

Demand for Jury Trial

43. STC.UNM hereby demands a jury trial for all issues so triable.

Prayer for Relief

WHEREFORE, STC.UNM prays for judgment as follows:

A. Declaring that Samsung have infringed the '400 Patent, contributed to the infringement of the '400 Patent, and/or induced the infringement of the '400 Patent;

B. Awarding damages arising out of Samsung's infringement of the '400 Patent, including enhanced damages pursuant to 35 U.S.C. § 284 and a compulsory future royalty until expiration of the '400 Patent, to STC.UNM, together with prejudgment and post-judgment interest, in an amount according to proof;

C. Permanently enjoining pursuant to 35 U.S.C. § 283 Samsung, its officers, agents, and employees, and those persons in active concert or participating with any of them, and its successors and assigns, from infringement, inducement of infringement, and contributory infringement of the '400 Patent, including but not limited to making, using, selling and/or offering for sale within the United States or importing into the United States, any devices, products, software, or methods that infringe the '400 Patent before the expiration of the '400 Patent;

D. Awarding attorneys' fees to STC.UNM pursuant to 35 U.S.C. § 285 or as otherwise permitted by law;

E. Awarding such other costs and further relief as the Court may deem just and proper.

Dated: May 28, 2019

Respectfully submitted,

By: /s/ Charles L. Ainsworth
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